

## REMARKS/ARGUMENTS

In the Office Action mailed October 22, 2008, claims 1-10 were rejected. In response, Applicant hereby requests reconsideration of the application in view of the amendments and the below-provided remarks. No claims are canceled.

For reference, claims 1 and 10 are amended. In particular, claim 1 is amended to clarify that the data signals convey protected information between the electronic circuits. Claim 10 is amended to recite a similar limitation. These amendments are supported, for example, by the subject matter described in the specification at page 3, lines 1-3, of the present application.

Additionally, claims 11-20 are added. In particular, claim 11 recites generating the alert signal in response to detection of a probe electrically coupled to the connection means. This amendment is supported, for example, by the subject matter described in the specification at page 3, lines 1-3, of the present application. Claim 12 recites further details of the propagation delay detection circuit recited in claim 4. This amendment is supported, for example, by the subject matter described in the specification at page 7, line 1, through page 8, line 9, of the present application. Claim 18 recites similar language within the context of the method of claim 10 and, hence, is supported by similar subject matter described in the present application. Claim 13 recites further details of the skew-rate deviation detection circuit recited in claim 5. This amendment is supported, for example, by the subject matter described in the specification at page 9, lines 12-23, of the present application. Claim 19 recites similar language within the context of the method of claim 10 and, hence, is supported by similar subject matter described in the present application. Claim 14 recites language related to monitoring a plurality of properties. This amendment is supported, for example, by the subject matter described in the specification at page 10, lines 6-8, of the present application. Claim 15 recites language related to the connection means having a bus with address bit lines and data bit lines. This amendment is supported, for example, by the subject matter described in the specification at page 6, lines 7-11, of the present application. Claim 16 recites monitoring all of the address and data bit lines of the bus. This amendment is supported, for example, by the subject matter described in the specification at page 7, lines 9-13, of

the present application. Claim 17 recites logic gates to combine a plurality of alert signals into a single alert signal. This amendment is supported, for example, by the subject matter described in the specification at page 7, lines 31-34, of the present application. Claim 20 recites directly monitoring a capacitance of the connection means and comparing the capacitance to a threshold. This amendment is supported, for example, by the subject matter described in the specification at page 9, lines 25-27, of the present application.

#### Claim Rejections under 35 U.S.C. 102 and 103

Claims 1-3, 6, and 8-10 were rejected under 35 U.S.C. 102(e) as being anticipated by Laackmann et al. (U.S. Pat. Pub. No. 2003/0132777, hereinafter Laackmann). Additionally, claim 4 was rejected under 35 U.S.C. 103(a) as being unpatentable over Laackmann in view of Benkley (U.S. Pat. Pub. No. 2003/0035570, hereinafter Benkley). Additionally, claims 5 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Laackmann in view of Rayane et al. (“A Digital BIST for Operational Amplifiers Embedded in Mixed-Signal Circuits” Proceedings of IEEE VLSI Test Symposium; 1999, pp. 304-310, hereinafter Rayane). However, Applicant respectfully submits that these claims are patentable over Laackmann, Benkley, and Rayane for the reasons provided below.

#### Independent Claim 1

Claim 1 recites “at least two electronic circuits coupled via a connection means, wherein the connection means is arranged for transferring data signals between the two electronic circuits, wherein the data signals convey protected information” (emphasis added) and “a monitoring circuit arranged to monitor a deviation in the capacitance of the connection means and to generate an alert signal if the deviation exceeds a predetermined value” (emphasis added). Hence, the monitoring circuit monitors a deviation in the capacitance of the connection means which transfers data signals that convey protected information. In other words, the monitoring means is monitoring the actual channels on which the protected information is conveyed.

In contrast, Laackmann does not disclose monitoring the actual channels on which protected information is conveyed. Rather, Laackmann merely describes monitoring conductor tracks which run between a signal transmitter and a signal receiver. Laackmann, paragraph 2. The signal transmitter, signal receiver, and conductive tracks are located in a shield which covers an integrated circuit. Laackmann, paragraph 8. Hence, the signal transmitter, signal receiver, and conductive tracks are not part of the integrated circuit. Moreover, Laackmann does not disclose the signal transmitter, signal receiver, or conductive tracks as conveying protected information. Laackmann merely explains that the signal, generally, is fed by the signal transmitter into the conductive tracks and received at the signal receiver. Laackmann, paragraph 45. However, there is no disclosure that the signal used by the signal transmitter, conductive tracks, and signal receiver might include protected information. Therefore, Laackmann does not disclose monitoring actual channels on which protected information is conveyed.

For the reasons presented above, Laackmann does not disclose all of the limitations of the claim because Laackmann does not disclose monitoring actual channels on which protected information is conveyed, as recited in the claim. Accordingly, Applicant respectfully asserts claim 1 is patentable over Laackmann because Laackmann does not disclose all of the limitations of the claim.

#### Independent Claim 10

Applicant respectfully asserts independent claim 10 is patentable over Laackmann at least for similar reasons to those stated above in regard to the rejection of independent claim 1. In particular, claim 10 recites “transferring data signals between the two electronic circuits via the connection means, wherein the data signals convey protected information” (emphasis added) and “monitoring a deviation in the capacitance of the connection means” (emphasis added).

Here, although the language of claim 10 differs from the language of claim 1, and the scope of claim 10 should be interpreted independently of claim 1, Applicant respectfully asserts that the remarks provided above in regard to the rejection of claim 1 also apply to the rejection of claim 10. Accordingly, Applicant respectfully asserts claim

10 is patentable over Laackmann because Laackmann does not disclose monitoring the actual channels on which protected information is conveyed.

#### Dependent Claims

Claims 2-9 and 11-20 depend from and incorporate all of the limitations of the corresponding independent claims 1 and 10. Applicant respectfully asserts claims 2-9 and 11-20 are allowable based on allowable base claims. Additionally, each of claims 2-9 and 11-20 may be allowable for further reasons, as described below.

In regard to claim 3, Applicant respectfully submits that claim 3 is patentable over Laackmann because Laackmann does not disclose all of the limitations of the claim. Claim 3 recites “the electronic circuits comprise a logical circuit and a storage element arranged to store data output by the logical circuit” (emphasis added). In contrast, the cited portion of Laackmann (Fig. 1) does not appear to disclose any type of storage device, in the arrangement recited in the claim. Although the indicated figure illustrates a transmitter 2, a receiver 3, a switching device 6, a drive and evaluation device 8, conductive tracks 4 and 5, and an integrated circuit 13, there is no explanation of these devices as being a storage element to store data output by a logical circuit. More specifically, if the intent of the statement in the Office Action were to rely on the receiver as a storage element, there is no description of the receiver as being capable of storing data output by the transmitter. In the absence of such disclosure, it is entirely possible that the receiver merely passes signals directly to the drive and evaluation device, without performing any storage functions for the signals. Therefore, Laackmann does not disclose a storage element, as recited in the claim. Accordingly, Applicant respectfully asserts that claim 3 is patentable over Laackmann because Laackmann does not disclose all of the limitations of the claim.

In regard to claim 4, Applicant respectfully submits that claim 4 is patentable over the combination of Laackmann and Benkley because the proposed combination of cited references is improper. In particular, the rejection of claim 4 is improper because the Office Action does not establish a *prima facie* rejection for the claim. In order to establish a *prima facie* rejection of a claim under 35 U.S.C. 103, the Office Action must present a clear articulation of the reason why the claimed invention would have been

obvious. MPEP 2142 (citing *KSR International Co. v. Teleflex Inc.*, 550 U.S. \_\_ (2007)). The analysis must be made explicit. *Id.* Additionally, rejections based on obviousness cannot be sustained by mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.* Here, the Office Action fails to explain why the limitations of claim 4 would have been obvious because the Office Action does provide any reason why one skilled in the art might have looked to combine the teachings of the cited references. Rather, the Office Action merely states the separate teachings of each reference, individually. The Office Action does not provide any analysis to conclude why one skilled in the art might have attempted to combine the individual teachings of the references. Consequently, the Office Action fails to establish a *prima facie* rejection for claim 4 because the Office Action does not articulate any reason to combine the cited references, other than to individually restate the separate teachings of each reference. Accordingly, Applicant respectfully submits that the rejection of claim 4 under 35 U.S.C. 103(a) should be withdrawn because the Office Action fails to establish a *prima facie* rejection. Moreover, one skilled in the art would not have looked to combine the teachings of the cited references because the teachings of Benkley are not useful in the device of Laackmann. As stated in the Office Action, Benkley relates to measuring capacitance. In contrast, Laackmann does not actually measure capacitance. Although Laackmann refers to “a capacitive measurement,” the process of Laackmann does not actually perform capacitance measurements. Rather, Laackmann merely describes comparing signals which result from capacitive coupling between adjacent conductive tracks. Laackmann does not describe how the signals are compared and, more specifically, does not describe actually measuring capacitance of the signals. Hence, the reference to a capacitive measurement in Laackmann actually refers to comparing signals which merely result from capacitive coupling – it does not refer to measuring the actual capacitance on the conductive tracks. Therefore, one skilled in the art would not be motivated to use the capacitance measurement teachings of Benkley within the device of Laackmann because the device of Laackmann does not actually measure capacitance. Therefore, the rejection is also improper because one skilled in the art would not be

motivated to combine the references, since there is no use for actual capacitance measurements in the device of Laackmann.

In regard to claim 5, Applicant respectfully submits that claim 5 is patentable over the combination of Laackmann and Rayane because the proposed combination of cited references is improper. In particular, the rejection of claim 5 is improper because the Office Action does not establish a *prima facie* rejection for the claim. The standard for establishing a *prima facie* rejection of a claim under 35 U.S.C. 103 is set forth above. Here, the Office Action fails to explain why the limitations of claim 5 would have been obvious because the Office Action does provide any reason why one skilled in the art might have looked to combine the teachings of the cited references. Rather, the Office Action merely states the separate teachings of each reference, individually. The Office Action does not provide any analysis to conclude why one skilled in the art might have attempted to combine the individual teachings of the references. Therefore, the Office Action fails to establish a *prima facie* rejection for claim 5 because the Office Action does not articulate any reason to combine the cited references, other than to individually restate the separate teachings of each reference. Accordingly, Applicant respectfully submits that the rejection of claim 5 under 35 U.S.C. 103(a) should be withdrawn because the Office Action fails to establish a *prima facie* rejection.

In regard to claim 6, Applicant respectfully submits that claim 6 is patentable over Laackmann because Laackmann does not disclose all of the limitations of the claim. Claim 6 recites “the monitoring circuit is arranged to monitor a value of the capacitance of the connection means and to compare the monitored value with a reference value” (emphasis added). In contrast, Laackmann does not disclose obtaining actual capacitance values. As explained above with reference to the rejection of claim 5, Laackmann merely refers to a capacitance measurement based on the use of capacitive coupling to produce a resulting signal that is compared with an original signal. However, Laackmann does not actually measure capacitance of the signals or the lines on which the signals propagate. Therefore, Laackmann does not monitor a capacitance value because Laackmann does not address obtaining or using actual capacitance values. Accordingly, Applicant respectfully asserts that claim 6 is patentable over Laackmann because Laackmann does not disclose all of the limitations of the claim.

In regard to claim 7, Applicant respectfully submits that claim 7 is patentable over the combination of Laackmann and Rayane because the proposed combination of cited references is improper. In particular, the rejection of claim 7 is improper because the Office Action does not establish a *prima facie* rejection for the claim. The standard for establishing a *prima facie* rejection of a claim under 35 U.S.C. 103 is set forth above. Here, the Office Action fails to explain why the limitations of claim 7 would have been obvious because the Office Action does provide any reason why one skilled in the art might have looked to combine the teachings of the cited references. Rather, the Office Action merely states the separate teachings of each reference, individually. The Office Action does not provide any analysis to conclude why one skilled in the art might have attempted to combine the individual teachings of the references. Therefore, the Office Action fails to establish a *prima facie* rejection for claim 7 because the Office Action does not articulate any reason to combine the cited references, other than to individually restate the separate teachings of each reference. Accordingly, Applicant respectfully submits that the rejection of claim 5 under 35 U.S.C. 103(a) should be withdrawn because the Office Action fails to establish a *prima facie* rejection. Moreover, despite the assertion in the Office Action, Rayane does not teach the indicated limitation. In particular, Rayane does not teach deriving a reference signal from a Monte-Carlo analysis. Rather, Rayane merely describes evaluating measurement variations using a Monte-Carlo analysis. However, such use of a Monte-Carlo analysis is insufficient to teach deriving a reference signal, as recited in the claim. Therefore, the combination of cited references also fails to teach all of the limitations of the claim because Rayane does not teach deriving a reference signal from a Monte-Carlo analysis, as recited in the claim.

## **CONCLUSION**

Applicant respectfully requests reconsideration of the claims in view of the amendments and the remarks made herein. A notice of allowance is earnestly solicited.

Respectfully submitted,

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